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ABSTRACT

Parental stress and supports, child temperament and mother-child interaction in free play were assessed in three groups of families of delayed preschoolers: 40 children with Down's Syndrome, 29 children with neurological impairments, and 40 children with delayed development of unknown etiology. In addition to a number of instruments completed by staff and parents, videotapes of free play were analyzed. Findings suggested a wide variety of interactions and feelings of success in coping as a result of differences in child temperament and type of handicap. Specific results included that mothers of unknown etiology children reported lowest self-esteem scores, that mothers and fathers of Down's Syndrome children reported feeling most supported, and that mothers who experienced greatest frustration in daily coping were least likely to rate their child's overall temperament as easy and most likely to rate it difficult. (CL)

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INDIVIDUAL DIFFERENCES IN MATERNAL STRESS, CHILD TEMPERAMENT AND MOTHER-CHILD INTERACTION WITH DEVELOPMENTALLY DELAYED PRESCHOOLERS.

A paper presented at The Council For Exceptional Children's 63rd Conference, Anaheim, California.

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INDIVIDUAL DIFFERENCES IN MATERNAL STRESS, CHILD TEMPERAMENT AND MOTHER-CHILD INTERACTION WITH DEVELOPMENTALLY DELAYED PRESCHOOLERS.

There has been an increased interest in the past decade in the social development of developmentally disabled children. Much of the initial research compared the normal child to the developmentally deviant child. The two research studies to be reported in this paper examine individual differences in parental stress and coping within the developmentally disabled population as a function of the child's presenting difficulties, child temperament and parental personality and social support factors. An initial study completed at The Hospital For Sick Children's Developmental Evaluation Unit (Marcovitch, 1983) examined 62 families with developmentally delayed preschoolers to determine whether maternal stress and child temperament varied with the type of developmental delay that had been diagnosed (i.e. Down's Syndrome, Neurological Problem, Unknown Etiology delay). Subsequently a subgroup of 21 mother-child dyads were then observed in interaction to determine whether there were individual differences in mother-child interaction with delayed children dependent upon maternal stress, type of handicap or qualities of child temperament.

Presently data has been gathered on a further 109 families within the same categories. A transactional model is applied to an explanation of the significant child and family factors that might affect a consonant relationship between the mother and her developmentally delayed child. It has become evident in clinical practise that etiology alone is not a sufficient predictor of future developmental outcome - thus one must look to factors that would predict optimal development of the child and minimal frustration coping, from amongst the myriad of child and family characteristics that form the basis for child and environment trasaction.

Specifically, the present studies have sought to answer the following questions:

1. Does maternal stress and sources of support and parental self esteem vary according to the type of developmental handicap a child is diagnosed as having?

2. Do temperament differences contribute to the difficulty of coping with a developmentally handicapped child?

3. Are differences in difficulty of temperament and parental coping reflected in alternative patterns of interaction with the delayed child?

In order to address these questions, parental stress and supports, child temperament and mother-child interaction in free play were assessed in 3 groups of families of delayed preschoolers: those with Down's Syndrome, Neurological Impairment and Unknown Etiology developmental delay.

We predicted that parents of Down's Syndrome children would experience least stress. Additionally, mothers who perceived their children as most difficult in temperament would be most distressed in coping. Lastly it was predicted that difficult temperament and distress at coping would be reflected in variations in degree of facial and vocal animation, positive or negative affect and child responsiveness.

METHOD:

The present data has been gathered on 40 Down's Syndrome children, 29 neurologically impaired children (seizure problems, cerebral palsy) and 40 unknown etiology delayed children. All children were between 1-1/2 to 4-1/2 years of age

and demonstrating delays in at least 2 areas of development. All except 3 children studied were from 2 parent families with a range of occupational and socioeconomic levels within all groups. Data was gathered on both mothers and fathers whenever possible. Families involved in the study were taken from the Developmental Evaluation Unit, Hospital For Sick Children in Toronto, as well as families with children participating in preschools and service agencies for developmentally handicapped children in the Metropolitan Toronto area. The developmental quotient of all children ranged from 30 to 90 .

Maternal stress for the purposes of this series of studies has been defined as the result of an imbalance between the demands of a handicapped child and a mother's perception of her inability or ability to cope with that child (Marcovitch, 1983). Maternal stress is measured in two ways: The Rutter Health Questionnaire (Rutter, 1970) - a depression-anxiety symptom chechlist, as well as the Parental Coping Index (Marcovitch, 1983) - a measure of frustration at coping with daily life activities with the child. Support was measured through the use of Waisbren's Family Relations Measure and our own Support Measure. Parental self esteem was measured using the Coopersmith Self Esteem Inventory and Locus of Control through the Rutter Locus of Control Scale, 1966. Mothers and fathers both filled out the Toddler Temperament Scale (Fullard, Carey and Mcdevitt, 1984).

All mother-child dyads were then asked to participate in a 10 minute free play session videotaped and later rated by trained observers, unfamiliar with the research hypothesis. Ratings of maternal behaviour (e.g. facial and vocal animation, degree of positive and negative affect) and ratings of child behaviour (e.g. activity level, amount of vocalization, facial animation) were collected.

Results of the first study highlight an emerging pattern of individual differences in maternal stress and interaction with the delayed child. It was found that maternal stress at coping with the daily demands of a delayed child was highest for mothers of Unknown Etiology delayed children, lowest for mothers of Down's Syndrome children. Mothers reporting low frustration, mothers of Down's Syndrome children and those who describe their child as temperamentally "easy" were more animated facially, vocally more appropriate, exhibited more positive affect and chose more appropriate play materials during interaction.

Analyses of Results for the second study corroborate a number of predictions with respect to stress, handicap group and temperament.

1. With respect to the influence of type of handicap on maternal stress (see Figure 1 and Figure 2) the trend in the Parental Coping Index indicates lowest stress (less frustration coping) ($F_{2,106} = 6.07$, $p = .003$) in the Down's Syndrome group and highest stress in the Unknown Egiology Group. A significant interaction effect is found utilizing results of the MANOVA-PARENTS X DIAGNOSTIC GROUP on the Rutter Health Questionnaire ($F_{2,93} = 3.21$, $p = .05$).

It is of interest to note (Figure 2) that mothers in all three groups report more symptoms of stress (on the Rutter Health Questionnaire) than fathers do ($F_{1,93} = 13.24$, $p < .0004$). As well, it is worth noting that Rutter Health Questionnaire scores, despite variations between mothers and fathers and amongst groups were not, on the average considered within the high stress range. This would suggest the notion that one should not consider all parents with a handicapped child to be particularly higher in symptoms of anxiety or depression that parents of normal children.

Initial univariate analyses of variance examining self esteem, locus of control and perceived support (n=60) indicate that mothers and fathers of

Down's Syndrome children report feeling most supported ($F=1.82$, $p<.05$). Fathers of children with neurological impairment reporting experiences of least amount of support. Self esteem also varied significantly between mothers and fathers and between handicap groups - with mothers in general indicating lower self esteem scores than fathers ($F=4.67$, p1.02). Mothers of unknown etiology children report lowest self esteem scores in comparison to Down's Syndrome and Neurological groups. This would suggest that not knowing why one's child is delayed poses a threat to one's level of confidence.

2. Analyses of variance were performed on 9 dimensions of temperament for mothers who express greatest frustration coping (low), moderate frustration coping (intermediate) and very little frustration at coping (high) in order to ascertain whether those who were most frustrated in caring for their handicapped child also perceived their child as more difficult in any of the 9 dimensions of temperament. Significant differences were found between the groups for 3 temperament dimensions. Specifically, mothers who expressed most frustration coping had children who they considered to be higher in their threshold to stimulation ($F_{2,105} = 3.49$, $p=.03$), more negative in mood ($F_{2,165} = 4.01$, $p=.02$) and higher in activity ($F_{2,105} = 6.93$, $p=.002$). A chi-square distribution (see Table 1) of mothers' direct report of temperament yields a similar result for general temperament rating - ($X^2 = 16.38$, $p=.003$) indicating that mothers who experienced greatest frustration in daily coping were least likely to rate their child's overall temperament as easy and most likely to rate their child's temperament as difficult. Individual differences in behavioural style of the child therefore plays a role in determining a mother's level of frustration in daily coping with her handicapped child. Children with more easy going temperamental styles in the specific dimensions outlined would be easier to cope with despite their developmental delay.

3. Turning now to the last question addressed - the degree to which temperamental variation, type of handicap and parental frustration are reflected in differences in mother or child's behaviour as observed in free play, a multivariate analysis of variance of the mother and child behaviours across Handicap Groups was performed. A parallel analysis was performed across Coping Groups (as determined by the Parental Coping Index scores). The former analysis yielded a main effect for amount of child's facial expression (see Figure 8) that indicates a higher degree of facial animation observed in the Down's Syndrome children than in the children from the other two groups ($F_{2,101} = 3.58$, $p=.03$). As well a trend was noted in mother and child match ratings in which mothers of Down's Syndrome children were observed to have the closest match between the rating of their affect and their child's affect, and the neurological group was observed to demonstrate the most discrepant match ($F_{2,101} = 2.80$, $p=.07$). This result highlights the possibility that mother-child interaction with Down's Syndrome children is seen as qualitatively different (in the affective domain) from mother-child interaction with unknown etiology or neurologically based delays. The higher degree of consonance in the relationship between mothers of Down's Syndrome children is a reflection of temperamental variation and stress variation that we have observed in these populations.

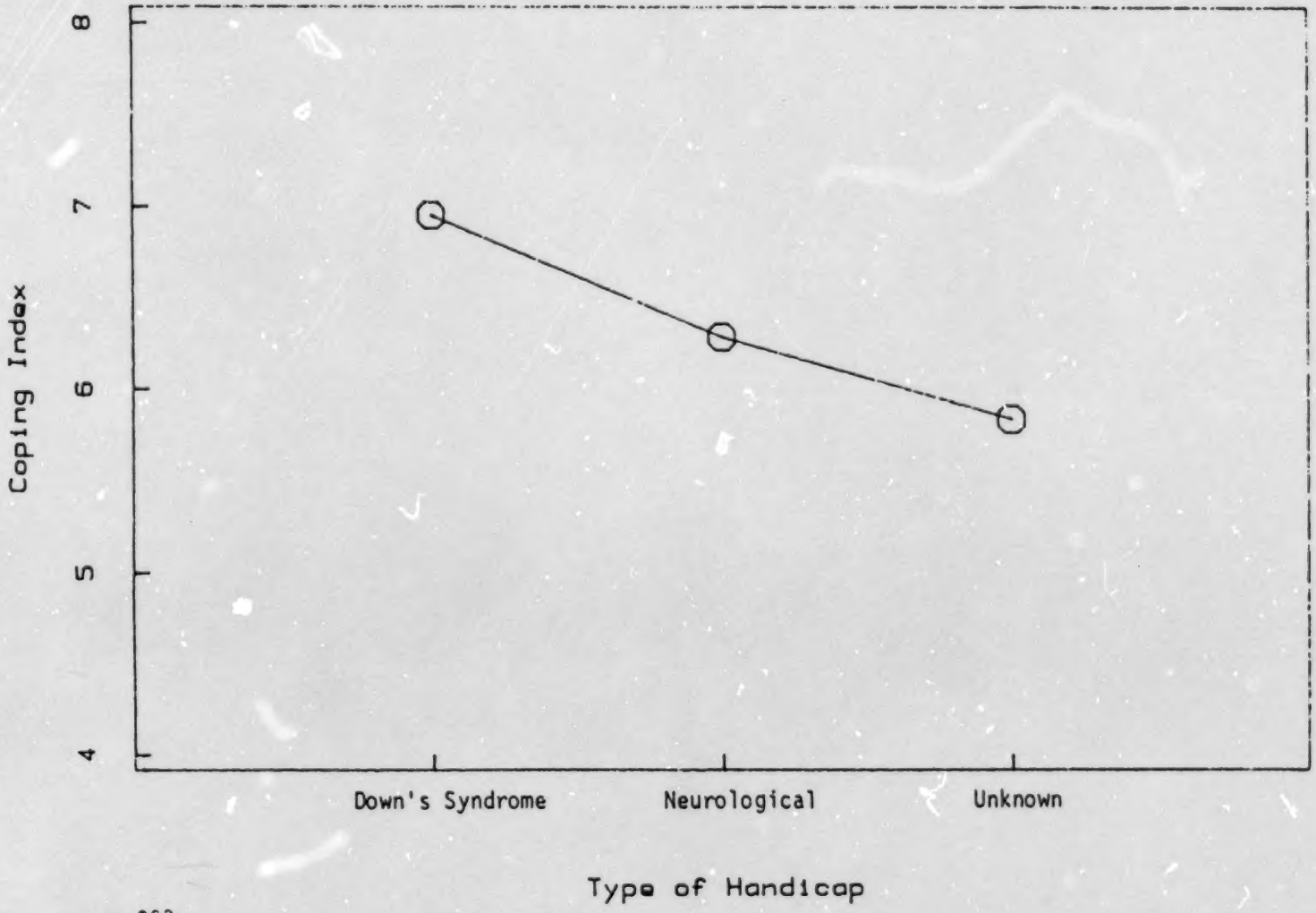
When analyses of variance comparing mother and child free play behaviour in mothers who reported lowest daily frustration (low coping) and high daily frustration were performed, results indicate that children of the least frustrated mothers displayed the most animated facial expression ($F_{2,101} = 3.97$, $p=.02$) and that mothers expressing most frustration were also observed to display more displeasure in their observed interaction ($F_{2,101} = 3.39$, $p=.04$) (see Figures 10 and 11).

In summary, these results would suggest that clearly generalizing from one group of parents and children with developmental handicaps (e.g. Down's Syndrome) to others is unwise, as, the analyses leads us to view a wide variety of interactions and feelings of success coping as a result of differences in child temperament and type of handicap.

As well, the clinical application of these findings would lead us to consider the inclusion of an assessment of child temperament, parental coping and parent-child interaction, as part of a comprehensive understanding of the delayed child and his or her earliest and most valuable support system, in order to provide individualized and appropriate preschool intervention for these children.

Figure 1

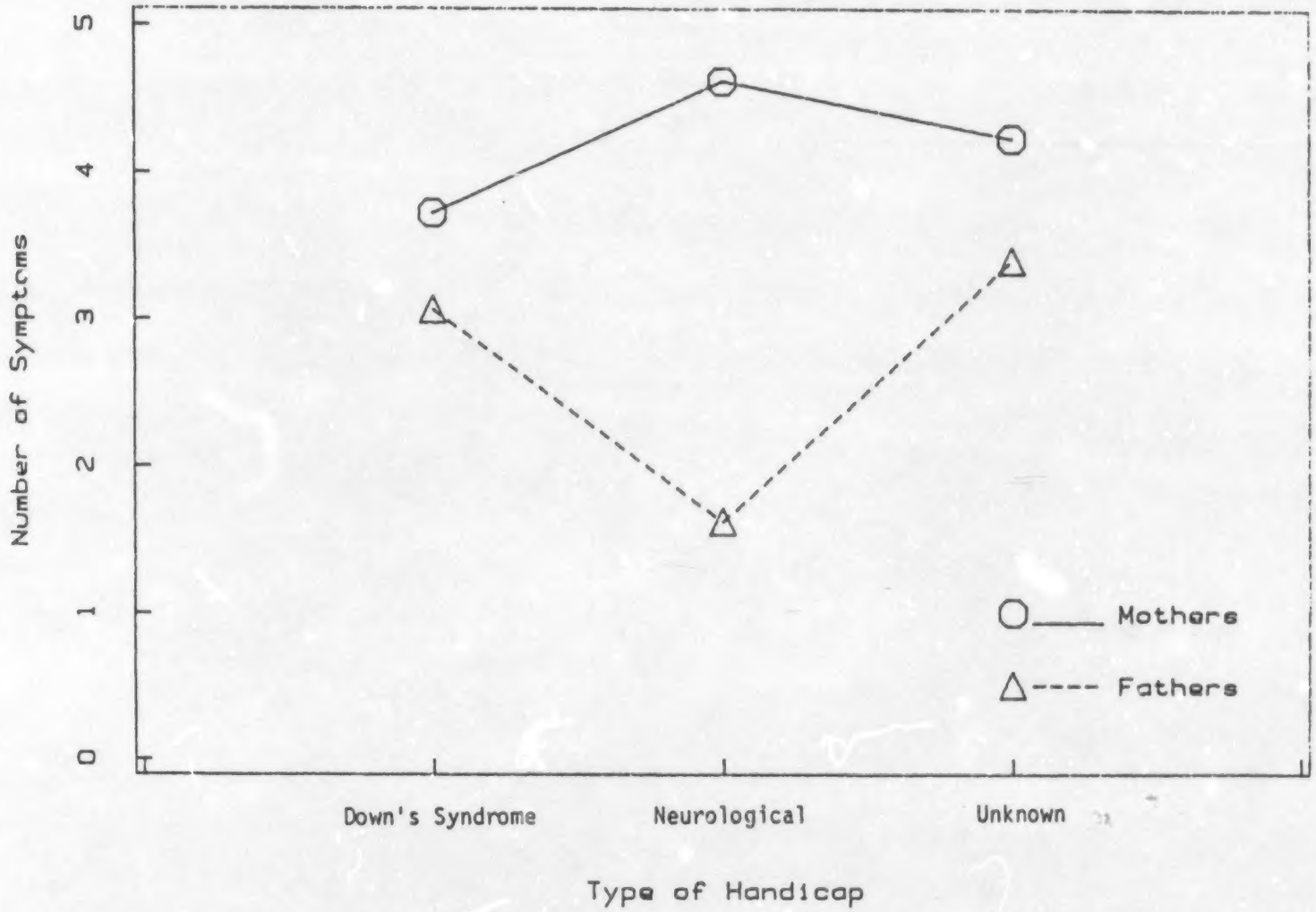
Maternal Coping With Three Groups Of Handicapped Children



p = .003

Figure 2

Parental RHQ Scores For Three Groups Of Handicapped Children



Interaction p = .05

Rutter Health Questionaire Scores

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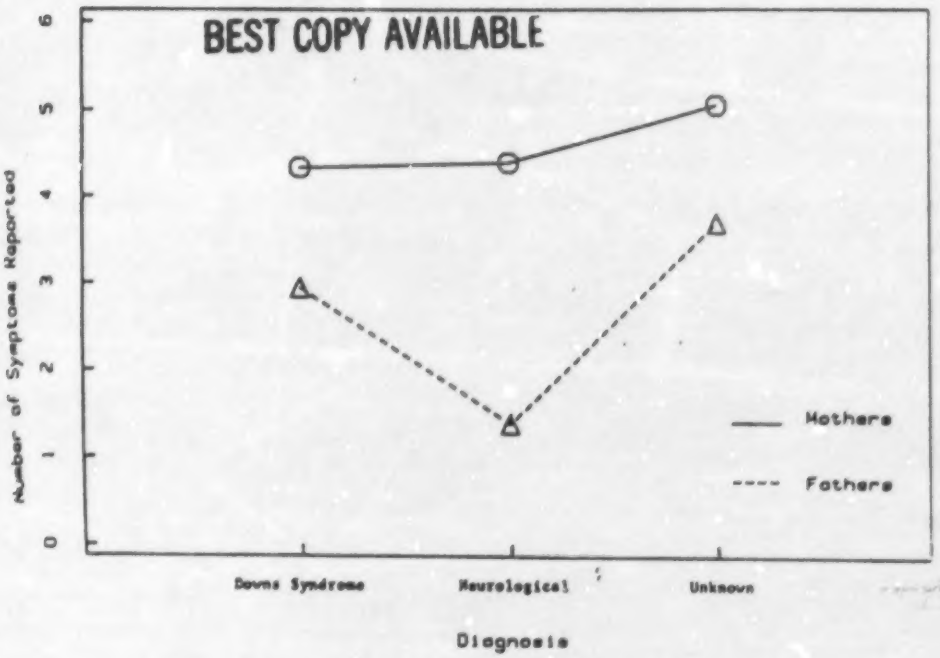
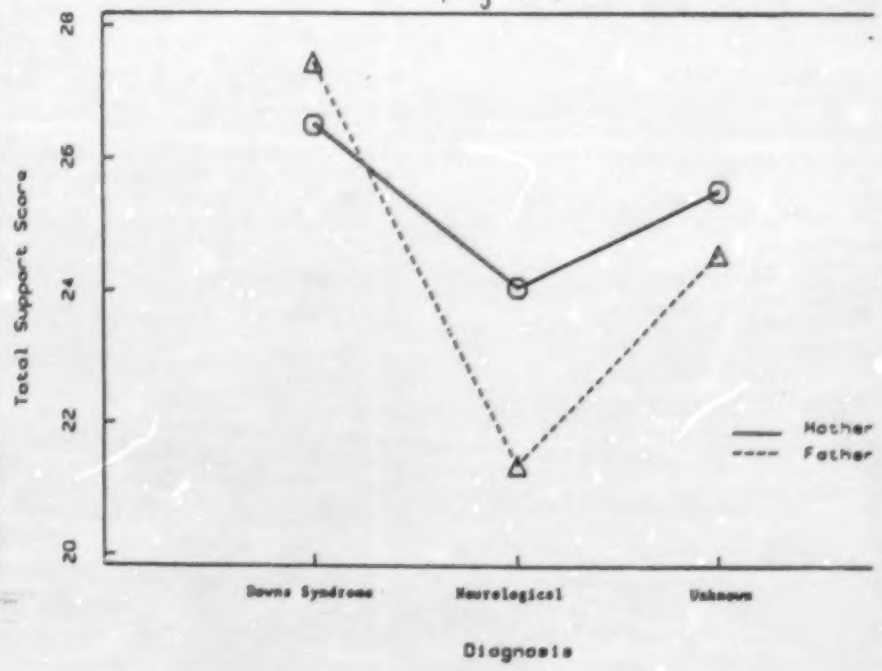
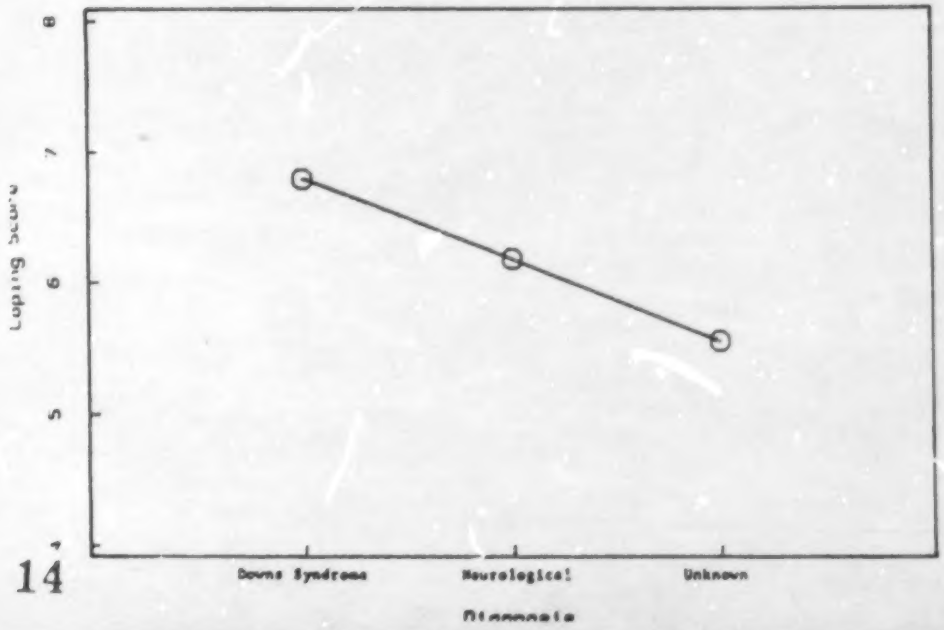


Mother and Father Report of Support

Fig 3.



Mother Coping Index



Self Esteem

Fig 4.

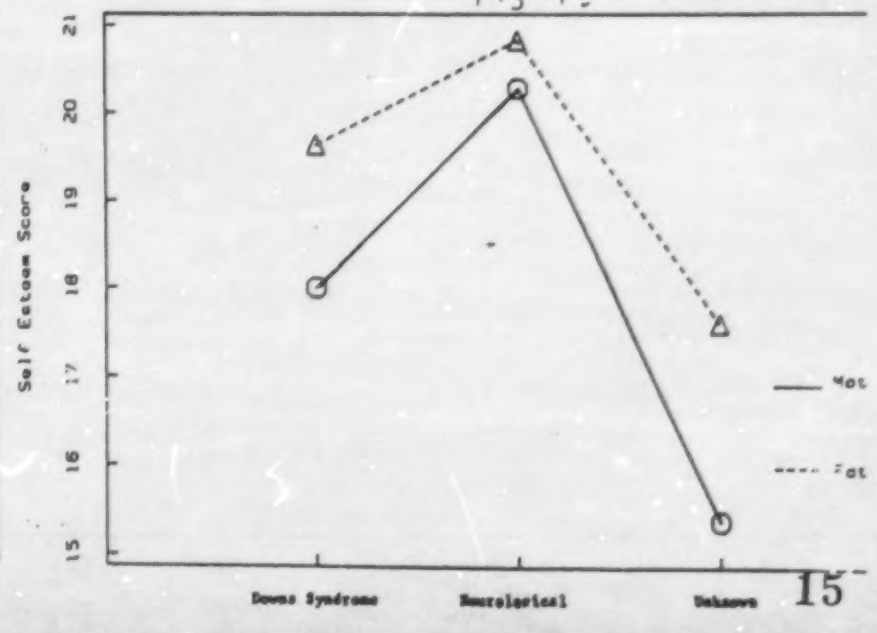
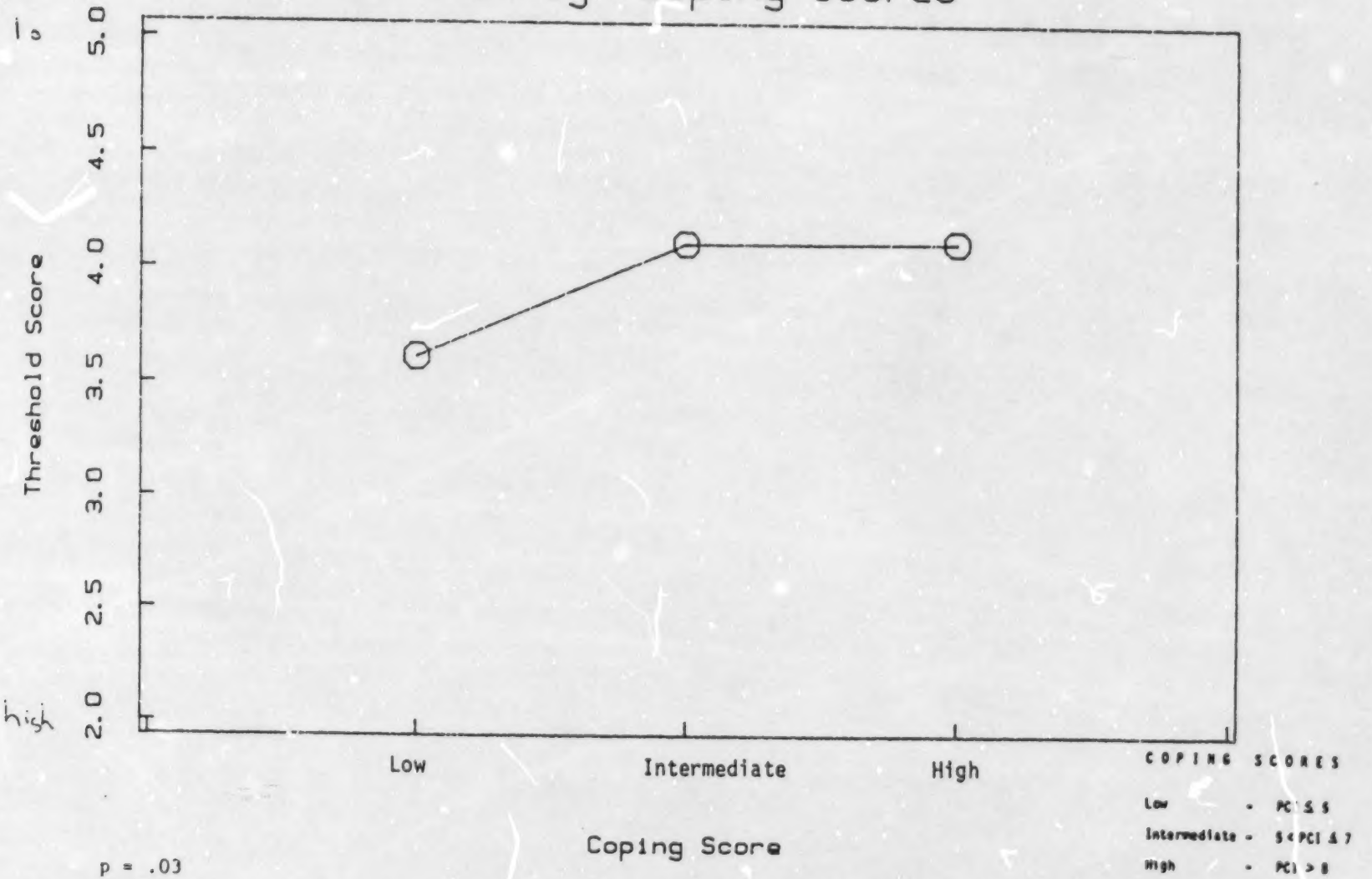


Figure 5

Maternal TTS Threshold Scores For Low, Intermediate And High Coping Scores



p = .03

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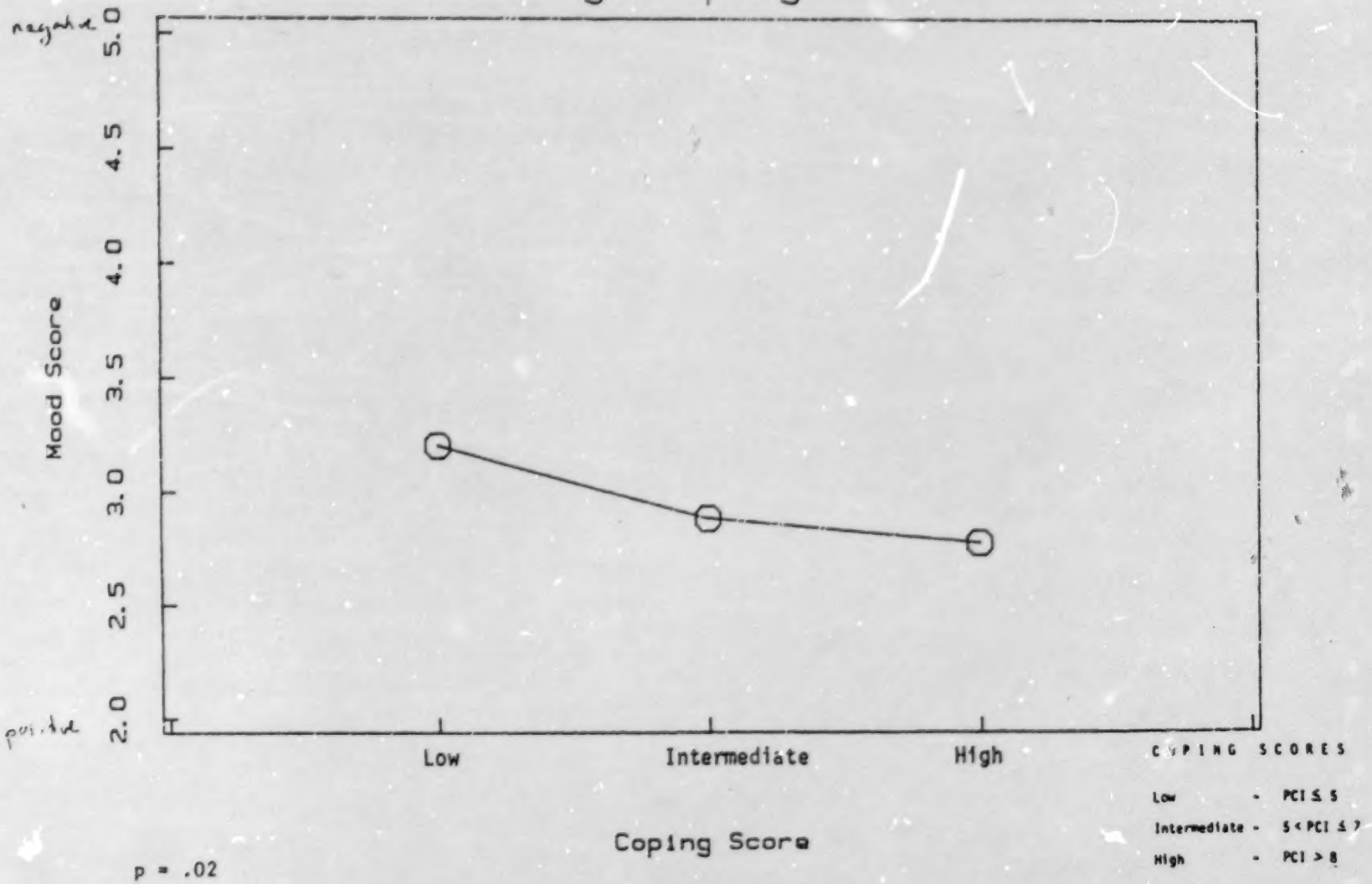
Fig. 6.

Maternal TTS Mood Score For Low, Intermediate And High Coping Scores



p = .02

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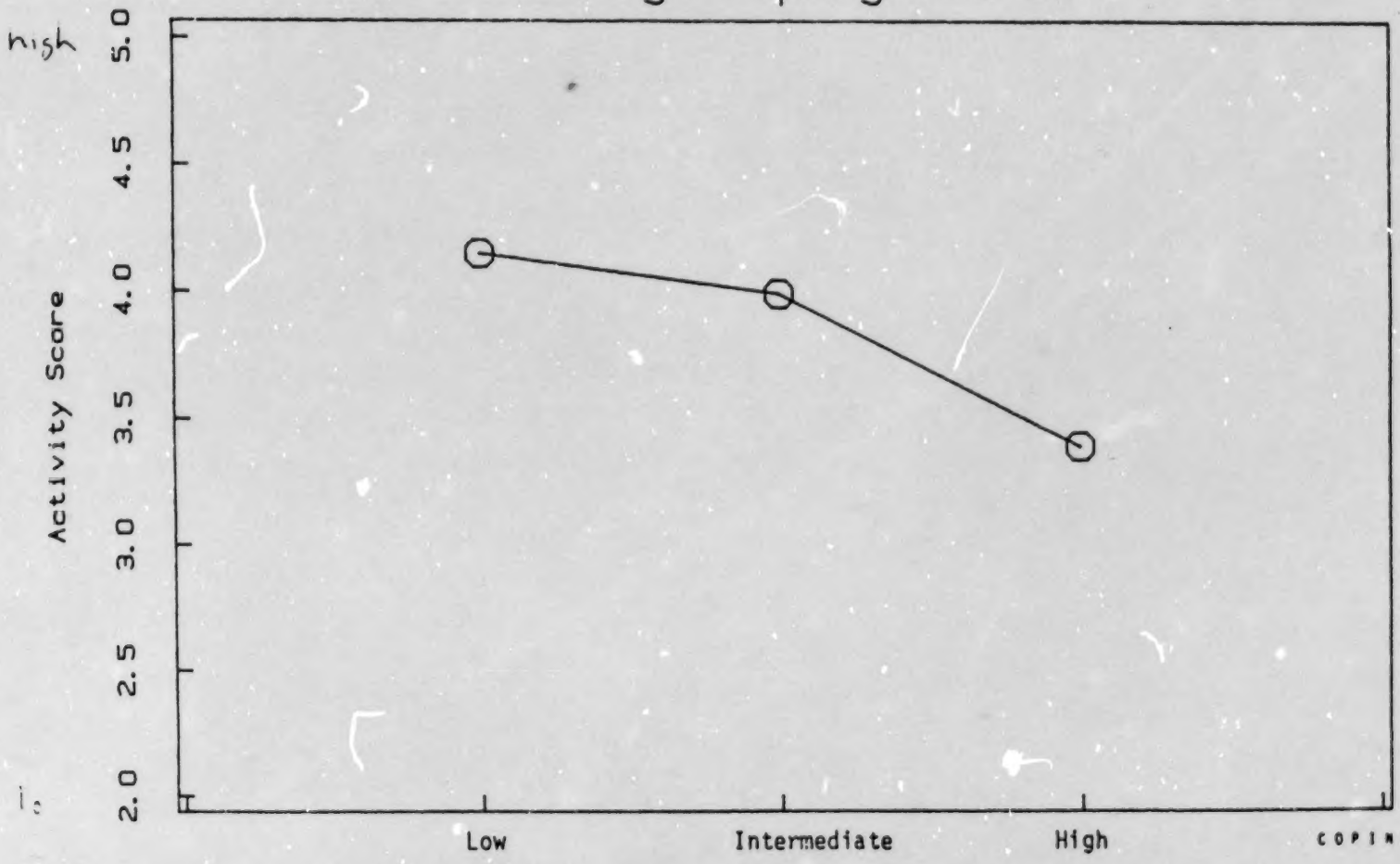
Fig 7.

Maternal TTS Activity Level For Low, Intermediate And High Coping Scores



p = .002

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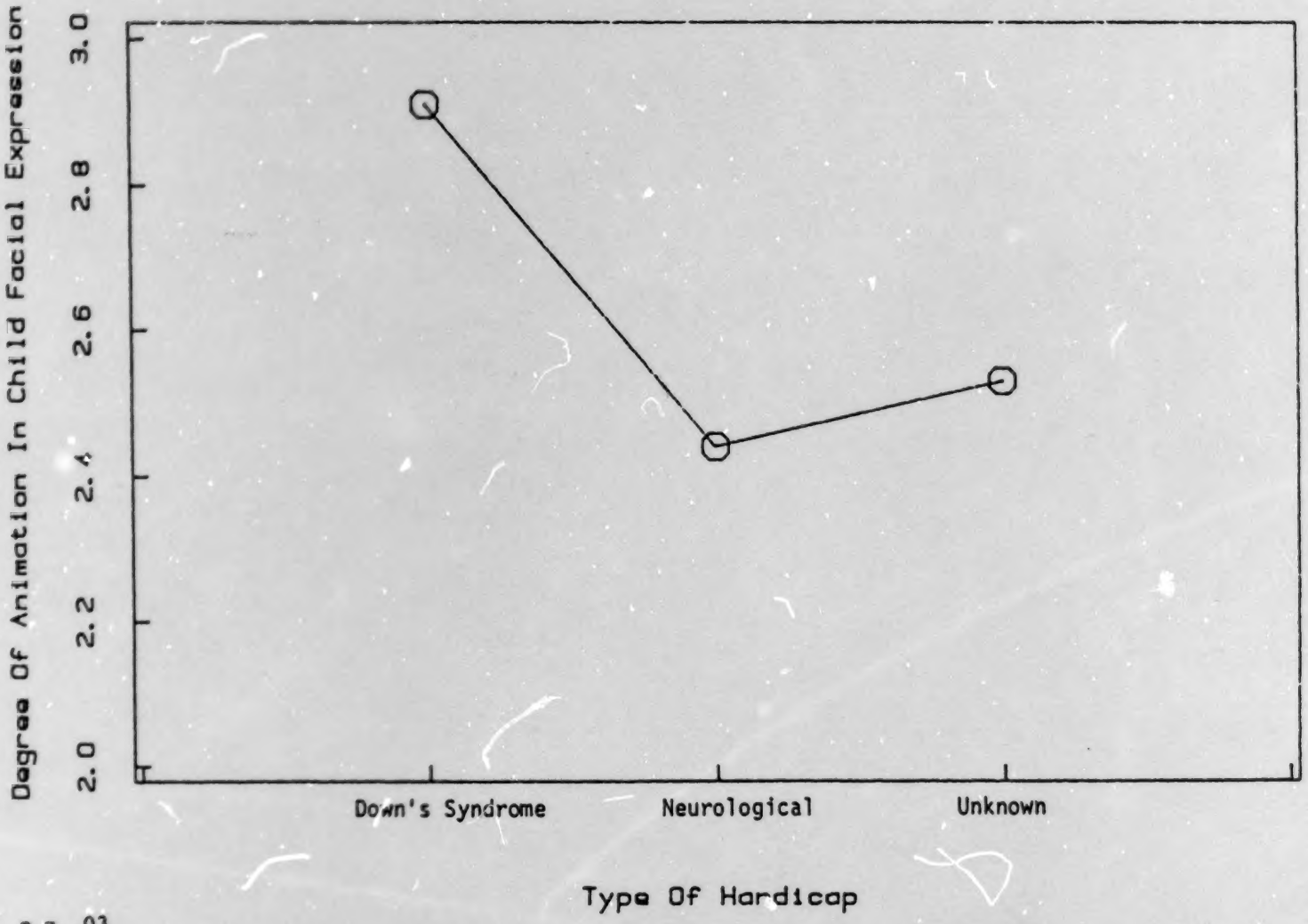
Figure 8

Childs Facial Expression During Free Play



p = .03

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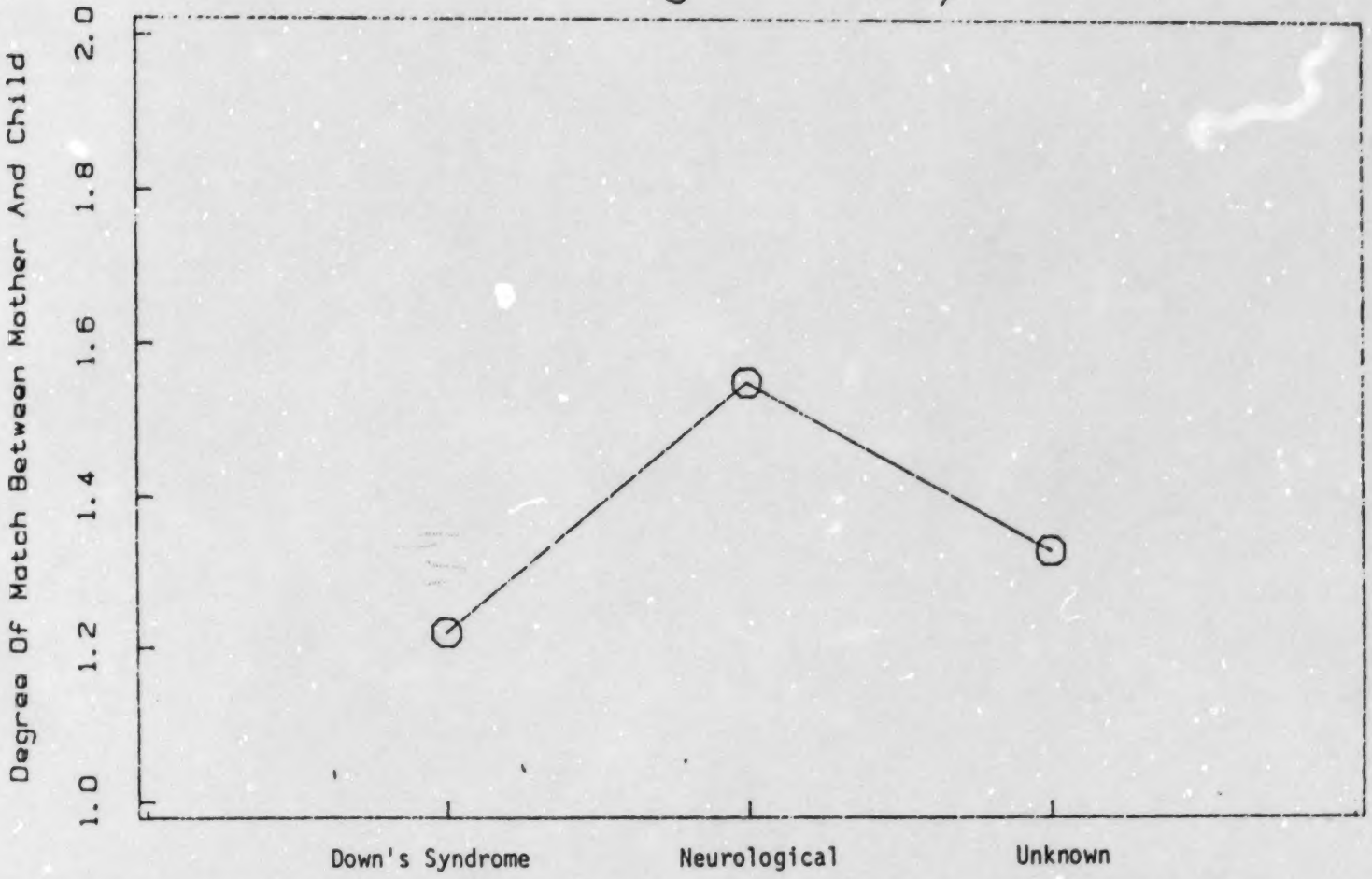
Figure 9

Match Between Mothers Affect And Childs Affect During Free Play



p = .07

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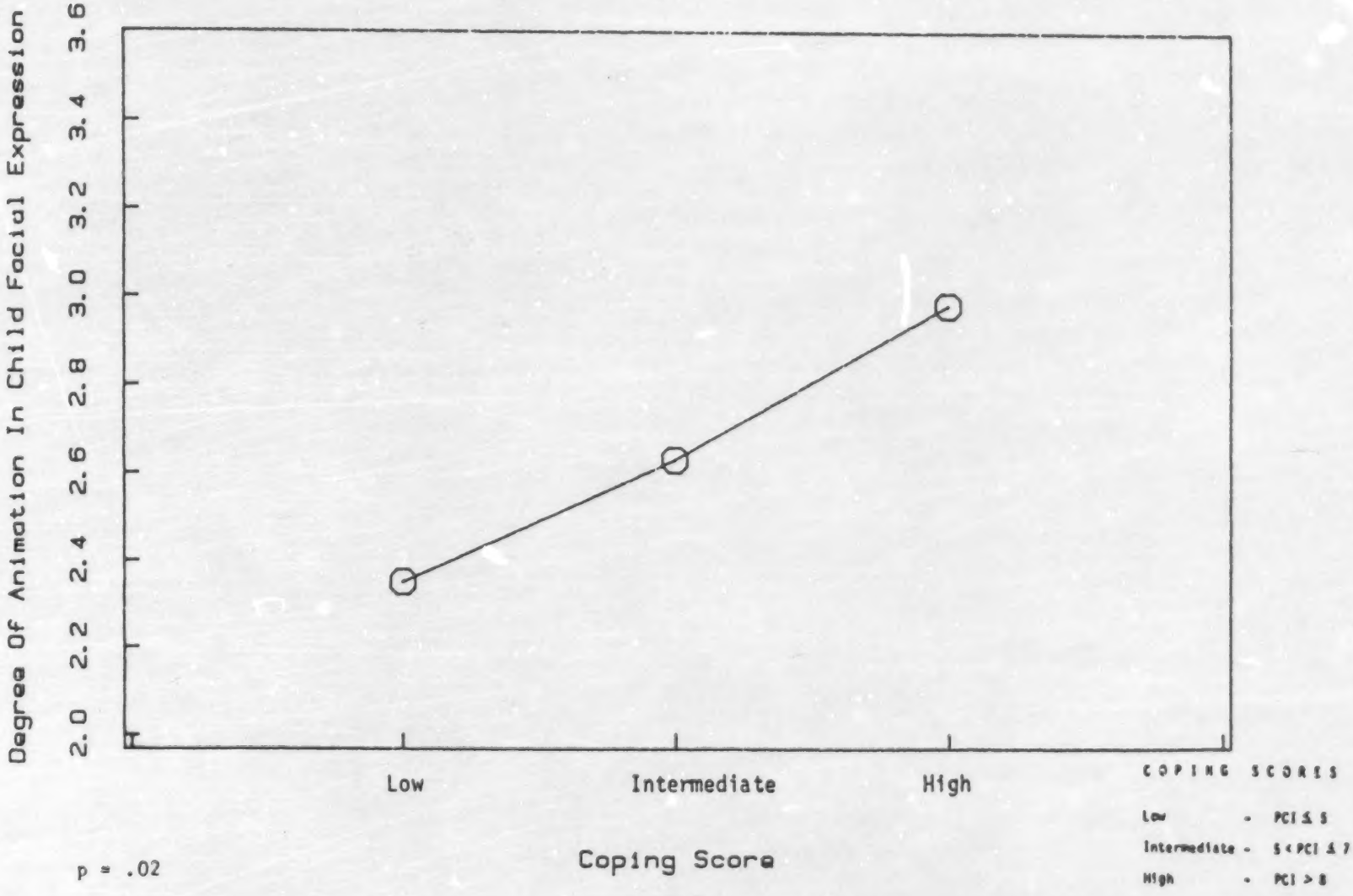
Figure 10

Childs Facial Expression During Free Play



p = .02

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Figure 11

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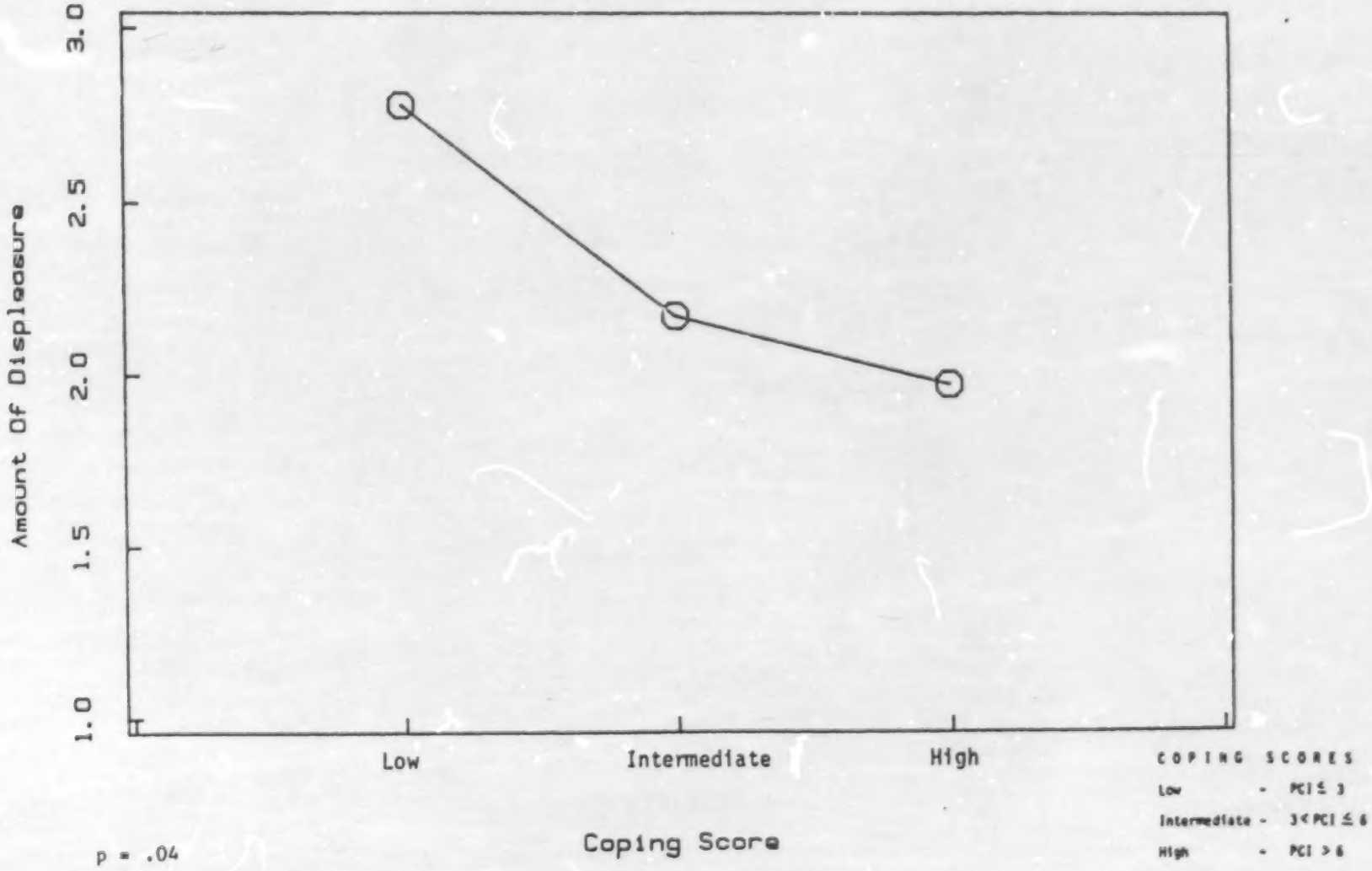
Amount Of Maternal Displeasure During Free Play Session



p = .04

TABLE I

Maternal Coping Index Scores

Mother's Direct Report of Temperament	5 or less	6 or 7	8 or more	
Easy	3	17	12	32
Average	8	20	10	38
Difficult	16	20	2	38
Total	27	57	24	